

Applicants: Fritz et al.  
Serial No.: 10/619,644  
Filing Date: July 14, 2003  
Docket No.: ZIL-553

REMARKS

Reconsideration and allowance is respectfully requested.

Before entry of this amendment, claims 1-24 were pending. In the Office Action, claims 1-24 were rejected, and claim 1 was objected to. In the present amendment, claims 1, 5, 11 and 15 are amended, and claims 25-30 are added. After entry of the amendment, claims 1-30 are pending.

I. Claim 1

Claim 1 is objected to based on an inconsistency in use of claim terms. Applicants amend claim 1 as suggested by the Examiner to overcome the objection.

II. Claims 1-3, 5-9, 11-13, 15-16 and 18-24

Claims 1-3, 5-9, 11-13, 15-16 and 18-24 are rejected under 35 U.S.C. § 102(b) as being anticipated by Tegethoff et al. (USP 5,937,154) (Office Action, p. 2, lines 17-18).

A. Independent claim 1

Claim 1 recites, “a script interpreter executing on the debugging device, the script interpreter receiving a script from the host computer”. Tegethoff does not form the basis for a valid rejection under § 102(b) because Tegethoff does not disclose all of the limitations of claim 1. Specifically, Tegethoff does not disclose a script interpreter executing on a debugging device.

The Examiner states that Tegethoff discloses “a script interpreter executing on the debugging device (Tegethoff, col. 9, lines 19-33), the script interpreter receiving a script from the host computer . . .” (Office Action, p. 3, lines 1-3). The cited passage from Tegethoff, however, does not disclose a script interpreter executing on a debugging device.

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Tegethoff discloses a test host 32, a computing system probe 34 and a computing device 36. The cited passage of Tegethoff also discloses "test script files". Tegethoff does not disclose, however, that the test script files are ever received by the computing system probe 34 from the test host 32. Instead, the test script files are executed on the test host 32. Then "microprogram based functional test code" is executed by the computing system probe 34. Tegethoff explains:

"Microprogram based functional test generation may be accomplished in one of three ways. A most basic implementation would allow the user to write his own microprogram based functional test and test script files which would be executed on the test host 32. Calls from the test script files via a command to the computing system probe 34 either causes the microprogram based functional test to be executed directly from the computing system probe 34 in an interactive mode via the computing device debug port 38, or causes the microprogram based functional test to be downloaded into memory of the computing device 36 and executed in batch mode from the memory. Results from the microprogram based functional test may be returned to the test host 32 from the computing system probe, or may be observed through any I/O device. In a more advanced implementation, automatically generated test files which test memory and I/O could be generated and executed as above. A third implementation might provide a utility for translating boot ROM microprogram based functional test code into tests residing in files on the test host 32 which can be executed by the computing system probe 34." (Tegethoff, col. 9, lines 19-39) (emphasis added)

In another passage, Tegethoff also explains that a "shell script" is executed on the test host 32. Tegethoff states, "In this example, 'lanload' is a command executed from a Unix shell on the test host 32 that executes a batch test on the computing system probe 34 via LAN" (Tegethoff, col. 11, lines 25-28) (emphasis added). Tegethoff also states that the test script of another embodiment executes on a test host 72. Tegethoff states:

"As shown in FIG. 7, the board tester 71 includes a test host 72 and computing system probe 73 such as those used in the embodiment of FIG. 3 . . .

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.... In a step 85, an operator or a test script executing on the test host 72 directs the computing system probe 73 to commence execution of the microprogram based functional test directly from the board/MCM memory 78 via an execute command sent to the debug port 76 on the board/MCM under test 75." (Tegethoff, col. 13, line 66 – col. 14, line 30) (emphasis added)

Moreover, Tegethoff implies that booting an operating system of computing system probe 34 is necessary to execute a microprogram based functional test. This in turn might imply that test script files are not interpreted by a script interpreter on computing system probe 34. Tegethoff states:

"The computing system probe 34 may run a microprogram based functional test . . . . The microprogram based functional test 35 could be improved to achieve very high fault coverage levels, which would potentially eliminate the need for booting the operating system and running diagnostics which require long execution time at the board level." (Tegethoff, col. 10, lines 5-14) (emphasis added)

In addition, Tegethoff does not mention "script interpreter", "interpret" or "interpreting". Therefore, Tegethoff does not disclose either (i) a script interpreter executing on a debugging device, or (ii) a script interpreter on a debugging device receiving a script from a host computer.

Because Tegethoff does not disclose all of the elements of claim 1, reconsideration of the § 102(b) rejection and allowance of claim 1 are requested.

#### B. Dependent claims 2-3 and 5-9

Claim 8 recites that there is no operating system stored on the debugging device. The Examiner states that the computing system probe 34 of Tegethoff "operates without any apparent use of an operating system" (Office Action, p. 4, lines 6-7). Tegethoff does not disclose, however, that no operating system is stored on the computing system probe 34. In fact, Tegethoff implies that the computing system probe 34 has an operating system:

"The computing system probe 34 may run a microprogram based functional test . . . . The microprogram based functional test 35 could

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be improved to achieve very high fault coverage levels, which would potentially eliminate the need for booting the operating system and running diagnostics which require long execution time at the board level.” (Tegethoff, col. 10, lines 5-14) (emphasis added)

Claims 2-3 and 5-9 depend directly or indirectly from claim 1. In addition to the reasons stated above, claims 2-3 and 5-9 are allowable for at least the same reasons for which claim 1 is allowable. Reconsideration of the § 102(b) rejection and allowance of claims 2-3 and 5-9 are requested.

### C. Independent claim 11

Claim 11 as amended recites, “receiving a script from a host computer onto a hardware debugging device, . . . ; interpreting the script”. Tegethoff does not form the basis for a valid rejection under § 102(b) because Tegethoff does not disclose all of the limitations of claim 1. Specifically, Tegethoff does not disclose receiving a script from a host computer onto a hardware debugging device and interpreting the script.

The Examiner states that Tegethoff discloses “interpreting the script (Tegethoff, col. 9, lines 12-18, where the interpreting the script is the loading of the script into the probe memory emulator)” (Office Action, p. 4, lines 16-17). Applicants respectfully disagree. Tegethoff does not disclose a hardware debugging device that receives a script from a host computer. Moreover, Tegethoff does not disclose that a script is interpreted on a hardware debugging device. Tegethoff also does not disclose that a script is loaded into the computing system probe 43, as the Examiner implies. Instead of a script, a microprogram based functional test is downloaded to the computing system probe 43. Tegethoff states:

“The microprogram based functional test in this case could be downloaded to the memory from the test host 32 via the computing system probe 34 and debug port 38 and then run in batch mode at operational speed from the memory. In the alternative, the computing system probe 34 may be part of a computing system test which may include a memory emulator that probes the I/O pins of the computing

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device 36. If so, the microprogram based functional test could be downloaded to the memory emulator of the computing system probe 34 and executed at operational speed from there" (Tegethoff, col. 9, lines 8-18).

The passage from Tegethoff cited by the Examiner (col. 9: 12-18) does not mention either a script or interpreting a script. The cited passage does not disclose that downloading a microprogram based functional test to a memory emulator is the equivalent of interpreting a script. Tegethoff does not even mention "script interpreter", "interpret" or "interpreting".

Tegethoff does disclose "test script files". But Tegethoff does not disclose that the test script files are ever received by the computing system probe 34 from the test host 32. Instead, the test script files are executed on the test host 32. Then "microprogram based functional test code" is executed by the computing system probe 34.

Tegethoff does not disclose either (i) receiving a script from a host computer onto a hardware debugging device, or (ii) interpreting the script. Because Tegethoff does not disclose all of the elements of claim 11, reconsideration of the § 102(b) rejection and allowance of claim 11 are requested.

#### D. Dependent claims 12-13, 15-16 and 18-19

Claim 15 recites that the interpreting of the script occurs on the hardware debugging device. The Examiner states that Tegethoff discloses "wherein said interpreting of the script occurs on the hardware debugging device (Tegethoff, col. 9, lines 19-30)" (Office Action, p. 5, lines 11-12). The cited passage, however, does not mention "interpreting". Moreover, the cited passage does not disclose that a script is ever received onto the computing system probe 34.

Claims 12-13, 15-16 and 18-19 depend directly or indirectly from claim 11. In addition to the reasons stated above, claims 12-13, 15-16 and 18-19 are allowable for at least the same reasons for which claim 11 is allowable.

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Reconsideration of the § 102(b) rejection and allowance of claims 12-13, 15-16 and 18-19 are requested.

E. Independent claim 20

Claim 20 recites, "A debugging device comprising: . . . means for receiving a script from the host computer, . . . the means also being for interpreting the script". Tegethoff does not form the basis for a valid rejection under § 102(b) because Tegethoff does not disclose all of the limitations of claim 20. Specifically, Tegethoff does not disclose a debudding device comprising means for receiving a script from a host computer as well as means for interpreting the script.

The Examiner states that Tegethoff discloses "a debugging device comprising . . . means for receiving a script from the host computer (Tegethoff, col. 8, line 50 through col. 9, line 18) . . . the means also being for interpreting the script . . . (Tegethoff, col. 9, lines 12-18)" (Office Action, p. 6, lines 4-14). Applicants respectfully traverse the rejection.

Tegethoff does not disclose a debudding device with means for receiving a script from a host computer. The passage of Tegethoff cited by the Examiner (col. 8:50 – col. 9:18) does not disclose that computing system probe 43 has a means for receiving a script. The passage of Tegethoff cited by the Examiner (col. 8:50 – col. 9:18) does not even mention a script. And Tegethoff does not disclose that computing system probe 43 has a means for receiving the test script files first disclosed in Tegethoff after the passage cited by the Examiner. Moreover, the second passage of Tegethoff cited by the Examiner (col. 9:12-18) does not disclose that computing system probe 43 has a means for interpreting the test script files. The second passage of Tegethoff cited by the Examiner (col. 9:12-18) does not mention interpreting. In fact, nowhere does Tegethoff mention "script interpreter", "interpret" or "interpreting".

Tegethoff does not disclose either (i) a debudding device comprising means for receiving a script from a host computer, or (ii) a debudding device

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comprising means for interpreting the script. Because Tegethoff does not disclose all of the elements of claim 20, reconsideration of the § 102(b) rejection and allowance of claim 20 are requested.

#### F. Dependent claims 21-24

Claims 21-24 depend from claim 20 and are allowable for at least the same reasons for which claim 20 is allowable. Reconsideration of the § 102(b) rejection and allowance of claims 21-24 are requested.

#### III. Dependent claim 4

Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Tegethoff in view of "The Zen of Diagnostics", Published in Embedded Systems Programming, June 1990 ("Zen") (Office Action, p. 8, lines 9-10). To establish a *prima facie* case of obviousness, the Examiner must demonstrate three criteria. The MPEP § 2142 states:

"To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the reference (or references when combined) must teach or suggest all the claimed limitations." MPEP § 2142 (emphasis added).

Claim 4 includes the following limitation of base claim 1, "a script interpreter executing on the debugging device, the script interpreter receiving a script from the host computer" (emphasis added). Tegethoff and Zen do not form the basis for a valid rejection of claim 4 under § 103(a) because neither Tegethoff nor Zen teaches a script interpreter executing on a debugging device. Although Tegethoff does teach "test script files", Tegethoff does not teach that the test script files are ever received by the computing system probe 34 from the test

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host 32. Instead, the test script files are executed on the test host 32. Then “microprogram based functional test code” is executed by the computing system probe 34. Zen also does not teach a script interpreter executing on a debugging device. The test code programs of Zen are coded in 8088 assembly language. Zen does not mention scripts or interpreting.

Reconsideration of the § 103(a) rejection and allowance of claim 4 are requested.

#### IV. Claims 10, 14 and 17

Claims 10, 14 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tegethoff in view of Cromer et al. (USP 6,263,373) (Office Action, p. 9, lines 1-3).

##### A. Dependent claim 10

Claim 10 recites “wherein the script is communicated from the host computer to the debugging device”. Tegethoff and Cromer do not form the basis for a valid rejection of claim 10 under § 103(a) because neither Tegethoff nor Cromer teaches that a script is communicated from a host computer to a debugging device.

The Examiner states that Tegethoff teaches “the debugging device, which receives test scripts (Tegethoff, col. 9, lines 29-30)” (Office Action, p. 9, lines 4-5). Applicants respectfully disagree. Tegethoff does not teach that computing system probe 43 receives a test script file.

The passage of Tegethoff cited by the Examiner states, “Results from the microprogram based functional test may be returned to the test host 32 from the computing system probe, or may be observed through any I/O device” (col. 9:30-33). The fact that microprogram based functional test code executes and produces results, and that those results are returned to the test host 32, does not teach that test script files are received by the computing system probe 43. Instead, the test script files of Tegethoff are executed on the test host 32. Then

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"microprogram based functional test code" is executed by the computing system probe 34. (See, e.g., Tegethoff, col. 9, lines 36-39) Tegethoff does not disclose that the test script files are ever received by the computing system probe 34 from the test host 32.

Cromer also does not teach that a script is communicated from a host computer to a debugging device. In fact, Cromer does not mention scripts.

Because the combination of Tegethoff and Cromer does not disclose all of the elements of claim 10, Tegethoff and Cromer do not form the basis for a valid rejection under § 103(a). Reconsideration of the § 103(a) rejection and allowance of claim 10 are requested

#### B. Dependent claims 14 and 17

Claims 14 and 17 depend directly or indirectly from base claim 11. Claims 14 and 17 both include the following limitation of base claim 11, "receiving a script from a host computer onto a hardware debugging device, . . .; interpreting the script". Tegethoff and Cromer do not form the basis for a valid rejection of claims 14 and 17 under § 103(a) because neither Tegethoff nor Cromer teaches receiving a script from a host computer onto a hardware debugging device and interpreting the script. Neither Tegethoff nor Cromer even mentions interpreting.

Tegethoff teaches neither (i) a hardware debugging device that receives a script from a host computer, nor (ii) a script that is interpreted on a hardware debugging device. Tegethoff does not disclose that the test script files of Tegethoff are ever received by the computing system probe 34 from the test host 32. Instead, the test script files of Tegethoff are executed on the test host 32, and then "microprogram based functional test code" is executed by the computing system probe 34.

Cromer also teaches neither (i) receiving a script from a host computer onto a hardware debugging device, nor (ii) interpreting the script. Because the combination of Tegethoff and Cromer does not disclose all of the elements of either claim 14 or claim 17, Tegethoff and Cromer do not form the basis for a

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valid rejection under § 103(a). Reconsideration of the § 103(a) rejection and allowance of claims 14 and 17 are requested.

V. New claims 25-30

Applicants are adding new claims 25-30, each of which is supported by the specification and allowable over the cited references. No new matter is added.

VI. Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully submit that the entire application (claims 1-30 are pending) is in condition for allowance. Applicants respectfully request that a timely Notice of Allowance be issued in this case. If the Examiner would like to discuss any aspect of this application, the Examiner is requested to contact the undersigned at (925) 621-2121.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

By   
Darien K. Wallace

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Respectfully submitted,



Darien K. Wallace  
Attorney for Applicants  
Reg. No. 53,736  
Customer No. 47,713